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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/501,380 | 07/13/2004 | Yoji Utsumi | 88528.0009 | 7580 |

26021 7590 02/09/2007
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EXAMINER

STERLING, AMY JO

ART UNIT PAPER NUMBER

3632

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS | 02/09/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/501,380

Applicant(s)

UTSUMI ET AL.

Examiner

Amy J. Sterling

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

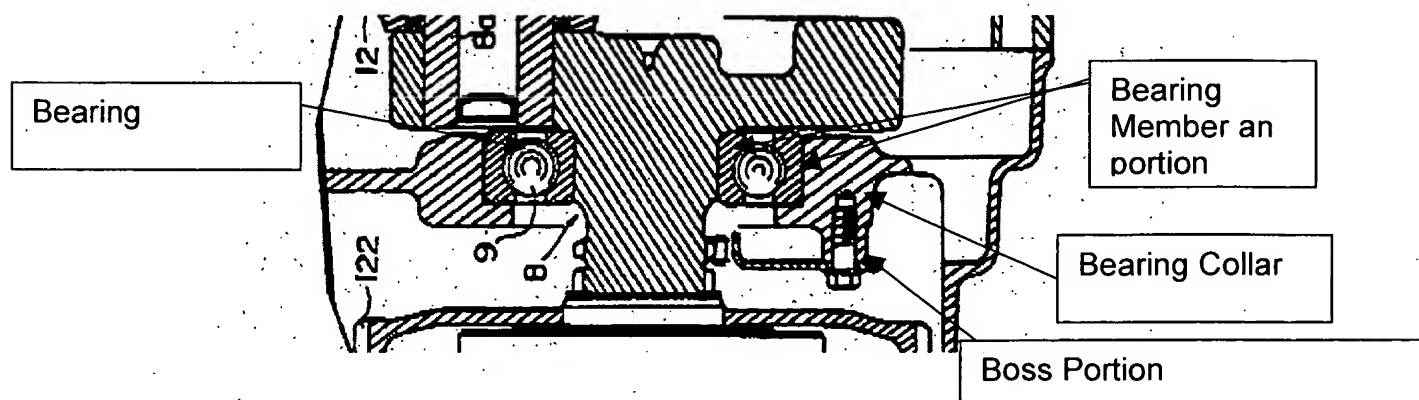
DETAILED ACTION

This is a non-final Office Action for application number 10/501,380 Engine Fastening Structure, filed on 7/13/04. Claims 1-10 are pending. This non-final Action is in response to applicant's reply dated 12/6/06. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over 5218885 to Nakano et al. in view of United States Patent No. 5203854 to Nilsson et al.

The patent to Nakano et al. discloses a fastening structure having a cylinder body (3), an a crankcase (2), a crankshaft (8) in the crankcase, a crankshaft bearing (9) disposed around a journal portion of the crankshaft and a bearing member (See Drawing Below) that is insert cast in the crankcase surrounding a journal portion of the crankshaft, a bearing collar (See Below) formed as a separate unit from the bearing portion wherein the bearing collar is fit into the bearing portion and the crankshaft bearing is fit into the bearing collar.



Nakano et al. also teaches a side flange portion integrally formed on the cylinder body (3) and connected to the crankcase with connecting bolts (158), wherein the connecting bolts overlap the crankshaft bearing s viewed in a direction in which a cylinder bore axis extends and a balance shaft disposed in a vicinity of and in parallel with the crankshaft wherein the balance shaft is supported by the bearing member. Nakano et al. also teaches wherein the crankcase is divided into left and right case portions in a direction in which the crankshaft extends and the bearing member is embedded in a side wall of each case portion and supports left and right journal portions of the crankshaft and wherein the balance shaft rotationally supports a balancer weight (22) and is also a connecting bolt connecting the right and left crankcase portions together a flange portion abutting an outer surface of the bearing member is formed at one end portion of the balance shaft and a threaded portion won which a nut member (25) is screwed is formed at another end portion of the balance shaft (See Col. 4 lines 50-70). Nakano et al. teaches that the gear (19) is provided on the crankshaft closer to a shaft end side than the crankshaft bearing and an outside diameter of the bearing collar is larger than an outside diameter of the gear and wherein the cylinder body side end face of the connecting boss portion is positioned inwardly without being exposed to a cylinder body side mating surface of the crankshaft and wherein the bearing member has right and left bearing members and the balance shaft if suspended by the bearing members and wherein the balance shaft is situated between the crankshaft and the connecting boss portions as viewed in a direction normal to a plane containing the cylinder bore axis and a crankshaft axis.

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Nakano et al. does not teach the bearing member and the case are made from an iron and aluminum alloy. Nakano et al. teaches does teach a connecting boss portion (See Above) integrally formed in the bearing member and extending toward the cylinder body from the sides of the bearing portion situation on opposite sides of a cylinder axis as viewed in a direction in which the crankshaft extends and a connecting bolt screwed into the connecting boss portions, but does not teach two bosses and two bolts as suggested by the plural from of these limitations.

Nilsson et al. teaches a bearing mounting which can be used to surround a crank shaft (See Col. 1, lines 22-28), a portion of the mounting made of an aluminum alloy and an iron alloy. (See Col. 1, lines 50-51), the materials used for their strength and durability characteristics.

Also, Nakon et a. teaches a mounting for the bearing which includes two mounting bosses and two mounting bolts (5), used to securely mount the device to the engine block.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made from the teachings of Nakano et al. to have made the device with two mounting bosses and bolts for secure mounting and of a suitable material such as an iron aluminum alloy in order to have a device that is durable and strong.

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Response to Arguments

The arguments about the date of the reference cited are persuasive, but moot in view of the new rejection above.

Conclusion

Any inquiry concerning this communication should be directed to Amy J. Sterling at telephone number 571-272-6823. The examiner can normally be reached (M-F 8 a.m.-5:00 p.m.). The fax machine number for the Technology center is 571-273-8300 (formal amendments) or 571-273-6823 (Informal communications). Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center receptionist at 571-272-3600.

Amy J. Sterling
Primary Examiner AU3632
1/23/07


AMY J. STERLING
PRIMARY EXAMINER
TECHNOLOGY CENTER 3600